

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended)      A method of generating optimized platform location sets, comprising:

selecting a set of surface platform locations;

determining additional surface platform locations to add to the set of surface platform locations; and

determining an optimum surface location for each surface platform location in the set of surface platform locations.

2. (Original)    The method of claim 1, wherein determining the additional platform locations includes validating the additional platform locations.

3. (Currently Amended)      The method of claim 1, wherein determining additional platform locations to add to the set of platform locations includes adding the additional platform locations to the set and determining whether the additional platform locations are desirable, based on at least one of a maximum target limit, a drilling distance, and one or more target values associated with the additional platform locations, wherein the at least one of a maximum target limit is determined by applying at least one multiplier to approximate an average number of targets to assign to each of the additional platform locations and receiving a user-supplied number of slots for each of the additional platform locations, each target comprising a drilling location for a well, and wherein the one or more target values comprise numerical values

associated with the distribution of a property of interest associated with each target, the property of interest including at least one of porosity and oil saturation.

4. (Canceled)

5. (Currently Amended)      The method of claim 1, wherein optimizing the platform location set includes:

- (a)      setting a step-out distance equal to a fraction of a platform reach;
- (b)      moving each of the additional platform locations in the set in eight compass directions, and if a new location is better than an original location, moving each of the additional platform locations to a new location, wherein the determination that a new location is better than an original location comprises determining at least one of the following:

determining that more targets may be reached from the new location than from the original location, each target representing a drilling location for a well;

determining that the same number of targets may be reached from the new location with less total distance; and

determining that the number of targets reachable from the new location have a higher cumulative target value; and

- (c)      executing step (b) until new locations for each of the additional platform locations are no longer achieved; and

(d) executing steps (a) through (c) progressively decreasing the step-out distance until a more desirable set of platform locations are no longer achieved.

6. (Original) The method of claims 5, wherein the step-out distance is reduced by a predetermined amount for each execution of Step (d).

7. (Currently Amended) A computer-readable medium having computer-executable instructions which when executed on a computer perform for performing stages, comprising:

selecting a set of surface platform locations;

determining additional surface platform locations to add to the set of surface platform locations; and

determining an optimum location for each surface platform location in the set of surface platform locations.

8. (Original) The computer-readable medium of claim 7, wherein determining additional platform locations includes validating the additional platform locations.

9. (Currently Amended) The computer-readable medium of claim 7, wherein determining additional platform locations to add to the set of platform locations includes adding the additional platform locations to the set and determining whether the additional platform locations are desirable, based on at least one of a maximum target limit, a drilling distance, and

one or more target values associated with the additional platform locations, wherein the at least one of a maximum target limit is determined by applying at least one multiplier to approximate an average number of targets to assign to each of the additional platform locations and receiving a user-supplied number of slots for each of the additional platform locations, each target comprising a drilling location for a well, and wherein the one or more target values comprise numerical values associated with the distribution of a property of interest associated with each target, the property of interest including at least one of porosity and oil saturation.

10. (Canceled)

11. (Currently Amended) The computer-readable medium of claim 7, wherein optimizing the platform location set includes:

- (a) setting a step-out distance equal to a fraction of a platform reach;
- (b) moving each of the additional platform locations in the set in eight compass directions, and if a new location is better than an original location, moving each of the additional platform locations to a new location, wherein the determination that a new location is better than an original location comprises determining at least one of the following:

determining that more targets may be reached from the new location than from the original location, each target representing a drilling location for a well;

determining that the same number of targets may be reached from the new location with less total distance; and

determining that the number of targets reachable from the new location  
have a higher cumulative target value; and

(c) executing step (b) until new locations for each of the additional platform locations are no longer achieved; and

(d) executing steps (a) through (c) progressively decreasing the step-out distance until a more desirable set of platform locations are no longer achieved.

12. (Original) The computer-readable medium of claims 11, wherein the step-out distance is reduced by a predetermined amount for each execution of Step (d).

13. (Currently Amended) A computer system, comprising:  
a user interface;  
memory storage means;  
a processor coupled to the user interface and the memory storage means, the processor operable to:

select a set of surface platform locations;  
determine additional surface platform locations to add to the set of surface platform locations; and  
determining an optimum location for each surface platform location in the set of surface platform locations.

14. (Original) The computer system of claim 13, wherein the processor determines the additional platform locations by validating the additional platform locations.

15. (Currently Amended) The computer system of claim 13, wherein the processor determines the additional platform locations to add to the set of platform locations by adding the additional platform locations to the set and determining whether the additional platform locations are desirable, based on at least one of a maximum target limit, a drilling distance, and one or more target values associated with the additional platform locations, wherein the at least one of a maximum target limit is determined by applying at least one multiplier to approximate an average number of targets to assign to each of the additional platform locations and receiving a user-supplied number of slots for each of the additional platform locations, each target comprising a drilling location for a well, and wherein the one or more target values comprise numerical values associated with the distribution of a property of interest associated with each target, the property of interest including at least one of porosity and oil saturation.

16. (Canceled)

17. (Currently Amended) The computer system of claim 13, wherein the processor optimizes the platform location set by performing the steps of:

- (a) setting a step-out distance equal to a fraction of a platform reach;

(b) moving each of the additional platform locations in the set in eight compass directions, and if a new location is better than an original location, moving each of the additional platform locations to a new location, wherein the determination that a new location is better than an original location comprises determining at least one of the following:

determining that more targets may be reached from the new location than from the original location, each target representing a drilling location for a well;

determining that the same number of targets may be reached from the new location with less total distance; and

determining that the number of targets reachable from the new location have a higher cumulative target value; and

(c) executing step (b) until new locations for each of the additional platform locations are no longer achieved; and

(d) executing steps (a) through (c) progressively decreasing the step-out distance until a more desirable set of platform locations are no longer achieved.

18. (Original) The computer system of claim 17, wherein the processor reduces the step-out distance by a predetermined amount for each execution of Step (d).